

**Robotic Process Automation for Automation in Email (RPA)**V.PremaLatha<sup>1</sup>, Dr E.SriDevi<sup>2</sup><sup>1</sup>, Asst. Professor, Department of C.S.E, Koneru Lakshmaiah Education Foundation (KLEF), Deemed to be University, Vaddeswaram, Green fields, Guntur, Andhra Pradesh, India-522302..<sup>2</sup>, Assoc. Professor, Department of C.S.E, Koneru Lakshmaiah Education Foundation (KLEF), Deemed to be University, Vaddeswaram, Green fields, Guntur, Andhra Pradesh, India-522302..**DOI : 10.48047/IJFANS/11/S7/012****Abstract:-**

Our research mainly focus of Automating the Emails using Robotic Process. In College, for Students at the registration time, every institute faces certain issues with student data with various departments. They have all of the information about the students in one place. The primary issue here is that we need to split the data by department and by college constraints. Following that, we must email the relevant Department Incharges. Data of Specifically for Boys and Girls are focused for registration for students. A Task-Bot is created to segregate the data belonging to Hostel Data for boys and girls and also for data of dayscholar's from all available data set by setting an email it to an appropriate Incharges of their Department automatically. We utilised the Automation Anywhere tool to create this task bot. This procedure will take some time to complete if we do it manually. Despite the fact that there is no assurance that the outcome is right. We can get the greatest results without any human involvement and at a lower cost if we utilise the Automation Anywhere solution.

KeyWords: RPA Web Controller, Automation Anywhere

**I. INTRODUCTION**

In the realm of information technology, “robotic process automation (RPA) is one of the most popular technologies”. We can automate robotic processes utilizing some of the following tools: “1) Automation Anywhere 2) User-interface-path Blue Prism”, for example. The above mentioned tools are used in demand in automation of process in robotics. Involvement of humans will be less for the operations to do in repeatedly for the automation which is the basic need for “robotic process automation

(RPA)”. We can reduce the time, money, empowerment of employee, and provide precise outcomes with no quality deviations, resulting in the optimal output.

RPA is also utilised in business to boost flexibility, scalability, productivity, virtual workforce 24x7x365, human error reduction, regulatory compliance, and government compliance, among other things. RPA may save a company 50-70 percent of its costs. We utilized for validating the data, production of reports, and movement of data among banking apps with accounts of clients for managing in banking and financial services.

RPA is a growing technology which employs robots for programming to capture while understanding applications of present scenario for exchanges to be prepared for regulating data, and also need to communicate with software systems of others. These robots of different software are used for executing tasks which requires need human labour and all the duplicates are automated for the tasks across a variety of commercial applications without requiring changes to

the foundation or systems [9]. RPA provides a number of advantages, including increased company effectiveness, increased productivity, greater information secured information and viability, reduced time in cycle, and precision is improved while relieving repetition of employees and boring duties.

In telecommunications, business activities such as gathering and integrating client's data from a system of phone, manufacturing of phone information, data uploading, deriving rival data pricing, and information is backed-up from a system of client's from where all things can be easily perform.

Processing and migration of data for patients, for doctors maintained reports, processing of bills for medical, automation is done for eligibility to claim for status, systems are triggered to emails for billing regarding medicals, processing of insurance for claiming in regarding data automation, and other robotic process automation applications are very useful in the healthcare industry. Smart automation technology allows you to rapidly and precisely record and amend procedures.

Every procedure must be automated on a click of single mouse operation, such as transforming a compound operation into a single usage of mouse operation. Tasks are automatically created in minutes and use a centralized control room to handle FTP/SFTP procedures. When even in locked condition of system also the scheduled is executed, processes the automations which are managed quickly, users are easily managed after automation with a server that is scalable, and keep backups, security, and resources centrally.

Any procedure may be visibly documented with the click of a button in a robotic process. It has the ability to automate scripts in many formats. In a central repository, it may collect and reuse automated operations. It is simple to arrange and conduct batch data processing. There are three sorts of architectures in automation.

- Control-Room
- Bot-Creator
- Bot-Runner

#### 1) Control-Room:-

Control-room is a platform which is web-based that manages the automation anywhere for the tool. Meanwhile, it's a server that manages bots that can be deployed everywhere.

#### 2) Bot-Creator:-

Developers will leverage Desktop-based programmers to construct bots with this Automation Anywhere platform. The codes for the bots are then developed will be saved in the control-room by providing with a security pass-word after authentication. Developers among all categories need to construct their specific tasks or bots. These bots are then combined; further the execution of bot is quite easy also.

#### 3) Bot-Runners:-

The Bot-Runner is a device that allows us to run our bots. Multiple bots of various sorts are operating in simultaneously. Only the run license should have been required to execute automatically in tools of bots.

## II. METHODOLOGY

Bots are of three categories which are used in automation:

- Task-bot
- IQ-bot
- Meta-bot

### 1)Task-Bot:-

Task-bot is in charge of completing tasks, which are repeated, rule-based activities that needs data which is structured. Task-bots can be created in simple wayfor adaptable way to change. Task-bots can have roughly 585 instructions that can be dragged and droppedwhich can be operatedin the backend.

### 2) IQ-Bot:-

IQ-bots will be the generation of bots next. Programmers are grantedfor processing capabilities in cognitive way for the given data. Both data for structured as well as data for unstructured can be operated with IQ bots that helps to change data with information of same in the boxes. Using the IQ bot, we can eliminate mistakes, save time, and automate the entire process.

### 3)Meta-bot:-

Visual captures for components of GUIfor the application that are intended needs to be utilized for automation in front end are possible with meta-bots. Captures in visual, APIsapplication, and flow for navigation are all things that meta-bots can perform. A salesperson's order data can be tracked. Meta-bot designer lets you build, edit, and new screens are recorded for your meta-bot. The componentsof a meta bot's can be logics and aids. “Scalability, extensibility, compliance, resilience, maintainability, and offline automation are some of the benefits of using the Meta-bot”.

There are two methods for creating bots utilising automation anywhere:

- Through Recording
- Through Task editor

There are several sorts of recorders in automation.

- Smart-recorder (or) Object-recorder
- Screen-recorder (or) stand-recorder
- Web-recorder

### 1)Screen-Recorder:-

Standard recording is another name for a screen-recorder. It is the simplest technique to develop small automation processes since it records all mouse clicks and keystrokes made during the processing.

### 2)Smart-recorder:-

Smart-recorder, also known as object-recorder with smart in technology, is a sophisticated in recording which will be well suited to applications for desktop.

### 3)web-recorder:-

Web-recorder is mostly utilized for a web application dependant procedure that needs you to extract data from websites.

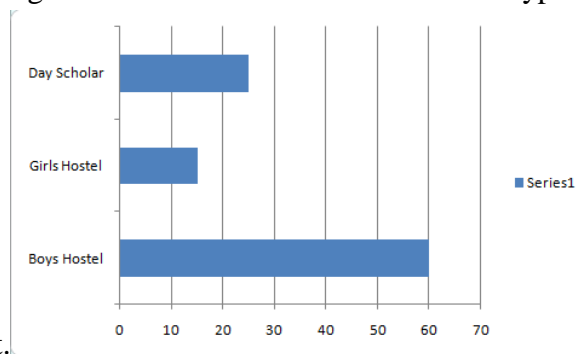
There are two sorts of variables that exist in automation:

- User(Local-variable)

It is set forth by the Automation user for a particular task..

- System-variable

All automation tasks employ a set of predefined variables that make up this collection. Using the Log to File command, you can keep track of Task-Bot/Meta-Bot related and associated information in a log file. In addition to csv and.txt, log files can also be stored in other file types.



Creating a log file is necessary if none already exist.

Fig 2.1:Proportion of the student's-data

### Excel-Comands

One of the most powerful commands will be the Excel command, which is utilised in instances such as. Using Excel commands, we may do a variety of tasks. The process of moving data between Excel spreadsheets using recorder methods to extract data from a webpage to an Excel spreadsheet.

- Excel locate and replace when deleting rows or columns
- Two cells or two columns being compared in an Excel file.
- Excel spreadsheet data sorting and duplicate row removal

The Excel command the following are some of the sub-commands included in it:

Excel commands include: "Open Spreadsheet," "Get Cells," "Set Cells," "Go to Cell," "Delete Cells," "Activate Sheet," "Find/Replace," "Close Spreadsheet," "Save Spreadsheet," and "Close Spreadsheet."

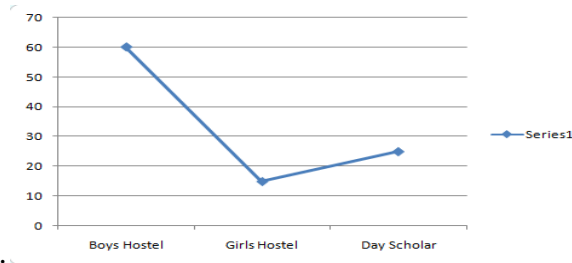
### Loop-Commands

Some of the following Loop Commands can be found in automation tools. It's utilized to automate repeated processes by creating loop structures in your automation task. The Loop Command is made up of a series of instructions that are repeated until a certain condition is fulfilled. It features a Start Loop and End Loop command and can automate any number of records in sequence. These are the many sorts of Loop Command components.

Each row in an Internet Explorer table, each row in an Excel dataset, each row in a dataset returned by a SQL query, each file in a folder, and each folder within a folder.

The Loop Command's many components are listed below.

Every email on the server, every row in a CSV/Text file, every node in an XML dataset,



the end of the loop, and the exit of the loop.

Fig 2.2: Data from students in line format

### Database-Commands

Data transfer between a database and numerous apps is possible with Anywhere for Automation. A variety of formats can be used for data import, export, and data transformation. For example, while working on a data migration project, we could wish to transfer and transform data. Additionally, we have the option to transfer data in predetermined formats between databases or from a custom-database to an Excel spreadsheet. [1].

Subcommands of the Database Command are as follows:

- Querying in SQL
- “Insert”, “Update”, “Delete” and Run the Stored Procedure
- Connect
- Disconnect

### Web-controller management

A subcommand named Manage Web Control is available under the Web-Recorder command. It can capture many types of website controls, including “image links”, “radio buttons”, “text boxes”, “check boxes”, and more. Enables or deactivates Title of Page and/or URL Page to select whether to play in an existing or new Internet Explorer window. Based on the captured object type, we may indicate the action you want to do during task playback.

The Workflow Designer has the following components:

- Begin
- Execute Task
- IF (Conditional)
- Finish

### Command for Cloning Objects

The Item Cloning Command places a focus on SMART Technology for work area applications and locales. This technology enables the client to “radar-lock” on an object and configure additional pursuit criteria to detect things more precisely. In order to grab objects based on a window title, this command utilises the most flexible or adaptable technology. The following are the elements of the Object-Cloning- Command:

- “Object”
- “Coordinates”
- “Image”

### Commands for Windows Control- Management

The Manage Windows Control order lets you record Windows control properties including catches, list box items, content boxes, menu tabs, combo boxes, check boxes, and tables. Once the instructions have been captured, you can execute explicit operations or delegate them to Variable Commands.

The Manage Windows Control has the following components:

- Control Properties
- Choose your actions

### **Add a Key Stroke**

A program's automated keystroke typing can be done with the Insert Keystrokes command. As regional settings, it supports English, German, French, Italian, and Spanish. Prior to running the Insert Keystrokes command, ensure that the application window is open. Make use of the Encrypt Keystrokes option to prevent unauthorised users from modifying your tasks. Using the wildcard character (\*) at either the beginning or the end of the window title in the "Select Window" text field [2], click the button.

### **Operation on Strings**

You can focus on a specific section of a string and save it in a variable by using the String Operation command. You can manage strings after capturing them with the String Operation command.

The Command's of String Operation which has different elements [3] are listed below.

- Replace
- Reverse
- Split
- Sub String
- Trim
- “Compare”
- “Find”
- “Join”
- “Length”
- “Lower Case and Upper Case”

### **If/Else**

Using the If/Else command to add actions and logic in conditional to an automated operation.

When used in coding, the If/Else command can assist prevent runtime errors when testing the state of an application, window, service, or other object [4].

The Workflow Designer has the following components:

- Start
- Run Task
- IF (Conditional)
- End

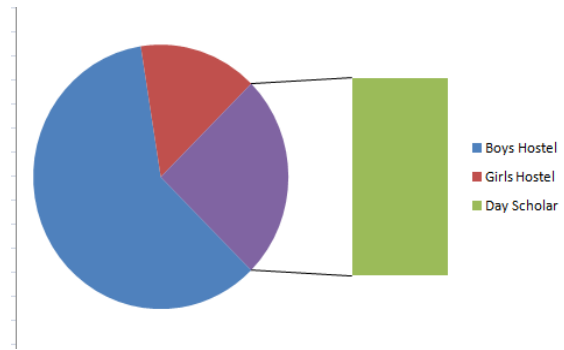


Fig:3.Circle-formatted student data

### “Recognition of images”

For applications where Object Cloning, Manage Windows Controls, and Manage Web Controls cannot capture controls, the Image Recognition Command automates the process. In bigger pictures, the Image Recognition Command looks for little images. We may adjust the Match Percentage, Tolerance mode, and other parameters to improve our search. If the control is discovered, the Image is recognized by using Commands that allows you to conduct click actions with it [5].

A Workflow Designer has the following components:

- Begin
- Execute Task
- End IF-(Statement of Conditional)

### Files/Folders

The commands for Folder and File aids in the automation of routine file and folder manipulation tasks. The commands in Loopcan be utilized to handle numerous “Files or Folders” that are given in a “folder” by using each file in a Folder and each Folder of concerned of concerned Component of a Folder.

A Workflow Designer has the following components[6]:

- Begin
- Execute Task
- IF (Conditional)
- Finish

### Emulator for Terminals

#### “The Terminal Emulator”

- Authorize terminals to accessing in remote and regulates their DOS-based activities in default.
- Allows you to transmit DOS commands like dir, ipconfig, copy, recover, and so on. • Allows you to change an application's particular condition across chores to simplify logic in the way of Automation [7].

“The Terminal Emulator” command has the following subcommands:

“Wait”, “Control”, “Connect”, “Disconnect”, “Send”, “Receive”, “Set”, “Get”, and “Control again”, “Receive All Fields”.

Algorithm:-

- Step-1: Log in to Automating Anywhere using your credentials for login
- Step-2.) On left-side of given tool, a new Button can be seen, which we should activate.
- Step-3.) When activation of the new button is done, the appearances of a window popup is done.
- Step-4.) “Smart-recorder”, “screen- recorder”, “web-recorder”, and “workbench” are included.
- Step-5.) workbench is accessible, which incorporates more than 500 drag-and-drop instructions.
- Step 6.) To read the Excel data, we must first open the Excel command.
- Step 7.) Based on our limits, we must employ loop commands.
- Step 8.) The excel data and csv files are generated using the log to file instructions.
- Step 9.) The email command is used to send emails to certain persons.

### Conclusion

We developed a way in this research to assist institutions in efficiently adopting the “RPA methodology”. The suggested method, in more detail [10], enables students to register, analyse, and categorise their data into “boy's hostel, girl's hostel, and days scholar's data, with these data being automatically sent to their respective incharges, such as boy's hostel incharge, girl's hostel incharge, and days scholar's incharge”. The dominant purpose of the indicated article is for the usage of RPA tool to reduce manual labour for repetitive jobs.

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